

In the know



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A promising new treatment is available for a disabling chronic foot condition.

Sesamoiditis, a painful condition affecting millions of people each year, can progress to the point of disability if left untreated. Now, thanks to a new non-surgical treatment that uses high intensity sound waves, patients are exercising and walking comfortably.

Sesamoiditis is a condition that affects all types of people. The most common variety of the condition involves a small bone located underneath the ball of the foot. The small bone is usually one of two bones that are usually round and less than a centimeter in diameter. Some people are born with these bones formed in two or three pieces. This is a natural occurrence and does not predispose a person to inflammation. The bone located under the first metatarsal can be palpated very easily, and the area can be tender under pressure.

The most common reason for pain in this area is trauma. Trauma can be acute, such as a blow to the foot, or it can be chronic, such as repetitive pounding due to running or other activities. As a bruised or inflamed sesamoid bone heals, it is important to get some of body weight off of the bones. Often, the podiatrist places a special pad into the shoe to offload the bone. It may even be necessary to cast the foot in order for it to heal. Walking on a badly bruised or broken sesamoid will delay healing and can lead to the bone becoming avascular. This means that the bone could lose circulation, causing it to become very tender. In addition, the bone can actually become thicker causing more weight to be borne on it.

Conservative treatment usually consists of padding to offload the ball of the foot. Additionally, to relieve inflammation and pain, anti-inflammatory medications, cortisone shots and casting have been successful for some patients. Also, a custom insole can be fabricated to more permanently relieve tenderness due to weight bearing. Usually, after a period of time, the patient can resume normal weight-bearing activities.

Surgical treatment is only considered in cases that do not respond to conservative care. This usually involves reducing the size of the sesamoid by cutting or burring it. By reducing the thickness of the bone, the patient will put less weight on the bone and will heal with full ability to resume activity.

There are disadvantages to both conservative and surgical treatments. Cortisone injections can cause a number of ancillary problems including nerve trauma, and can contribute to reduction of circulation necessary for the bone to heal. Often, the amount of time necessary to rest the sesamoids is lengthy and patient non-compliance is likely, especially if a preferred exercise, like running, is put off. Often, a patient will not rest enough, and will return to an activity too early after some slight improvement. This can start a chronic condition that can persist for years without any real resolution of the problem. Surgical disadvantages include the common risks associated with any surgical procedure. In addition, problems with normal foot biomechanics of the great toe joint can occur causing bunions or range of motion problems that can be worse than the original sesamoiditis.

The answer to the successful treatment of this difficult condition seems to be one that has been right in front of us for many years. In fact, the treatment has been used by doctors in Europe for many years. Veterinarians have been successfully treating horses with sesamoiditis with this treatment for over a decade! So what is the answer to the treatment of this painful condition affecting thousands of people each year? Extra Corporal Shock Wave!

ECSW has been successfully used in Europe and the US for many years to treat planar fasciitis (commonly known as heel pain) and tennis elbow (epicondylitis). Europeans also use it for treating fractures, Achilles tendonitis, patellar tendonitis and other bone and soft tissue problems. Because horses have sesamoid bones that are very large, this is actually a common condition. Doctors use a "low intensity" form of the treatment that can be performed without anesthesia directly over the bones, and this treatment cures the problem. It is noteworthy that low intensity and high intensity ECSW are both available in this country, and continued efforts are being made to bring this important technology into the mainstream. Slowly, insurance companies in the US are recognizing and covering this treatment. The main deterrent has been the cost of the machines, which usually exceeds \$300,000.

Despite high costs, the treatment is very easy and safe to deliver and very effective when performed properly. Some machines require general sedation due to pain from referred shock during treatment. However, the newer machines only require a local anesthetic or no anesthetic at all. The Dornier Epos Ultra shock wave machine has been utilized by Feet For Life for more than 5 years. After treating over 400 patients and counting, we are seeing a 94% success rate. By this, I mean that 94% of patients treated report at least a 70% improvement in symptoms after 12 weeks. Note, however, that many patients report 100% improvement in much less than 12 weeks!

So how and why does this treatment work? To answer this question, I will use the "meat tenderizer" analogy. Think of tenderizing a very tough piece of meat with a mallet. You start out with a piece of meat that appears dark and tough. Pounding the meat 3000 times will of course produce a red and tender result worth having for dinner. This is how the ESWT machine works. It "cavitates" the tissues that are tough and stiff and sort of dying by using directed shock waves that are powerful enough to actually produce small cavities. These small cavities (holes) promote a new blood supply. This means that the tough, dying tissues come back to life! They are able to stretch more and the small nerves that "sense" the pain are once again able to feel normal.

In fact, there is an extra benefit from ESWT that I have not yet explained. In the first days after your treatment, you may experience immediate pain relief simple due to 'over stimulation' of the nerves that are sore. This is, of course, not the reason for the eventual cure of the problem - (that occurs over the next 12 weeks that the tissue form new blood supplies) but it is an added benefit. Many patients report immediate relief, then some mild

discomfort when doing heavier activity like running, and finally, between the 4 and 12 week mark, they report that the pain is gone and they can return to activity. Note that patients respond differently. Often, patients with sesamoiditis will experience immediate relief. Patients with plantar fasciitis will run the entire gamut. Some doing well from day one, and some having to wait for the final result.

I have successfully used ESWT to cure patients of sesmoiditis with a near 100% success rate. My longest follow up is 7 years, and this patient went from a debilitating condition of both feet to being able to run without pain. I have treated young patients that are active marathon runners with high success. One marathon runner was so brutal on his feet that he admitted to running on a treadmill barefoot 3 weeks after his treatment. I considered this to be extreme non-compliance and warned him that his treatment outcome could be affected by this. He did set himself back a few weeks, but ultimately, after 8 weeks was cured. A recent success involved a female high school basketball player who was considering having to sit out games or possibly a season. She reported 100% success in days after the treatment.

It is not fully understood exactly how important ECSW can be as a major treatment option in our current health-care system. We do know that it works long term and usually with only a single treatment. We do know that there is very little risk involved with this treatment. Insurance companies are finally considering this treatment, and as of 2006, many are including it on their plans. Unfortunately, it may take a while before sesamoiditis is covered. For this reason, I will continue to offer treatment for this condition at reasonable fees. I hope that one day soon everyone will understand the benefit of ECSW treatment. To me this truly represents the 'Holy Grail' of orthopedics.